

F. TRANSITIONING N1-1 TO OFF/DIAGNOSTIC/STANDBY FROM PRIMARY & N1-2 TO PRIMARY FROM STANDBY

1. VERIFY MDM STATES
 PCS1 Node 1: C&DH: MDM N1-1
 PRIMARY NCS MDM Node 1

√STATE - Primary
 √MDM ID - N1-1

PCS1 Node 1: C&DH: MDM N1-2
 SECONDARY NCS MDM Node 1

√STATE - Standby
 √MDM ID - N1-2

NOTE
 If states are not correct, do not execute this procedure.
 √MCC

2. DISABLE NCS AUTO RETRY
 PCS1 Node 1: C&DH: MDM N1-2
 SECONDARY NCS MDM Node 1
 'Software Control'

sel MDM Utilities

Primary_NCS_MDM_Uilities

√Secondary_NCS_Auto_Retry_Inh - X (Inhibited)

If blank (Enable)
 sel Commands
 cmd Second_NCS_Inh_NCS_Retry **Execute**
 √Secondary_NCS_Auto_Retry_Inh - X (Inhibited)

3. COMMAND N1-1 TO DIAGNOSTIC

NOTE
 When MDM N1-1 is commanded to Diagnostic, the following heaters are commanded to their Default State which is Off.
 1. PMA 1 Shell Heaters 1A, 3A, 4A, and 5A
 2. Node 1 Shell Heaters 1A --- 9A
 3. MDM N1-1 Operational Heater
 4. MDM N1-2 Survival Heater

PCS1

Node 1: C&DH: MDM N1-1

Primary_NCS_MDM_Utility

'Software Control'

sel MDM FDIR

√Prim_NCS_Cmd_Xsitn_to_Dgnstc_Inh - blank (Enable)

If X (Inhibited)

'MDM Major State'

sel Commands

cmd N1-1_MDM_Cmd_Xsitn_Dgnstc_State_Arm **Execute**

sel MDM FDIR

√Prim_NCS_Cmd_Xsitn_to_Dgnstc_Inh - blank (Enable)

NOTE

1. Sending the following command will cause the loss of PCS1, Early COMM, and OIU telemetry until OIU reconfiguration and PCS2 reconnection are done.
2. Possible PDI DECOM fail message.

'MDM Major State:'

sel Commands

cmd N1-1_MDM_Xsitn_Dgnstc_State **Execute**

√Frame Count - static (Loss of PCS telemetry)

N1-2 should go to Primary State after 20 seconds.

4. TELEMETRY RECOVERY ON PCS2

PCS2

After boot up, when taskbar appears at bottom of display

sel Arrow directly above 'PCS' logo

sel Start/Restart PCS CDS

sel Icon to open PCS CDS Main Control Panel Window

√Status Box is green and 'Connected' is displayed in the PCS2 CDS Main Control Panel Window

NOTE

PCS2 connection to MDM is indicated by green in the Status Box and/or 'Connected' message displayed in the PCS2 CDS Main Control Panel Window.

```

*****
*   If Status Box is not green, select 'Connect to MDM' icon   *
*   to reconnect.                                              *
*   If still no joy, close all displays and all iconified items and *
*   repeat this step.                                          *
*   √MCC if Status Box is still not green.                    *
*****

```

5. TELEMETRY RECOVERY ON EARLY COMM (GROUND ONLY)

<p style="text-align: center;"><u>NOTE</u></p> <p>Early COMM should reconnect to N1-2 MDM on the other Orb bus automatically in about 10 seconds after N1-2 MDM becomes Primary.</p>
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Node 1: C&DH: MDM N1-2

PRIMARY NCS MDM Node 1

√Frame Count - incrementing

'MDM Major State:'

√MDM ID - N1-2

√MDM State - Primary

```

*****
*   If Frame Count is Static after 20 seconds from the moment *
*   N1-2 becomes Primary (No Early COMM telemetry received) *
*   *                                                         *
*   √MCC                                                         *
*****

```

6. TELEMETRY RECOVERY ON OIU

<p style="text-align: center;"><u>NOTE</u></p> <p>Possible PDI DECOM fail message.</p>
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CRT

SM 212 OIU

BUS 3 BC - ITEM 11 EXEC

BUS 4 RT - ITEM 14 EXEC

Change OIU N1 Physical Device to N1-2 - ITEM 18 +3 EXEC

CRT

Reload OIU FORMAT 2 - ITEM 1 +2 EXEC

CRT

SM 210 NODE

√PHY ID PRI MDM - N1-2

√STATE - PRI

√FAIL - blank
√FRM CTR - incrementing

PCS2 7. VERIFY N1-2 IS PRIMARY AND N1-1 IS IN DIAGNOSTIC
Node 1: C&DH: MDM N1-1
SECONDARY NCS MDM Node 1

√Frame Count - static

PCS2 Node 1: C&DH: MDM N1-2
PRIMARY NCS MDM Node 1

√Frame Count - incrementing

'MDM Major State:'

√STATE - Primary
√MDM ID - N1-2

sel Transmit Mode Code

Primary_NCS_Transmit_Mode_Code

sel 'Primary NCS Xmt Mode Code Commands'
cmd Xmt_Stat_Word_Tmplt
enter Bus ID - 2
enter RT Address - 6 **Execute**

√Subsystem Flag Set - X (Set)

If Subsystem Flag Bit is set, N1-1 MDM is in Diagnostic State and is ready to accept diagnostic commands.

If transitioning N1-1 to Diagnostic >>

If powering off N1-1, go to step 8.

If transitioning N1-1 to Standby, go to step 9.

PCS2 1. Verify MDM Heater and Shell Heater Configuration
Node 1: C&DH: MDM N1-2
PRIMARY NCS MDM Node 1
'RPCM N1RS2 C'

sel RPC 3
sel Commands
√Position - CI

'N1-2 Operational'

√MDM N1-2 Op Htr Availbty - Ena Ops
√MDM N1-2 Op Htr Health Stat - Operational

'N1-1 Survival'

√MDM N1-1 Surv Htr Availbty - Ena Ops
√MDM N1-1 Surv Htr Health Stat - Operational

√**MCC** for PMA 1 and Node 1 Shell Heater configuration

- PCS2 8. POWERING OFF N1-1 MDM
Node 1: C&DH: MDM N1-1
SECONDARY NCS MDM Node 1

'RPCM _N1RS1_A'

sel RPC 11 (Nod1_1_MDM)

RPCM _N1RS2_A_RPC_11 Detail

√Position - CI
sel Commands
cmd Open Execute
√Position - Op

If powering N1-1 off >>

- PCS2 9. TRANSITIONING N1-1 TO STANDBY STATE
Node 1: C&DH: MDM N1-2
PRIMARY NCS MDM Node 1
'Software Control'

sel MDM Utilities
sel Commands

NOTE

1. Startup process will execute from the UAS currently loaded in DRAM.
2. No POST is performed.

cmd N1_1_MDM_Re_Init_MDM_DRAM Execute

Wait 60 seconds for MDM to reinitialize.

- PCS2 Node 1: C&DH: MDM N1-1
SECONDARY NCS MDM Node 1

√Frame Count - incrementing

'MDM Major State:'

√STATE - Standby

√MDM ID - N1-1

```
*****
* If state is not Standby *
*                               *
*  √MCC                      *
*****
```